

Fig. 1A

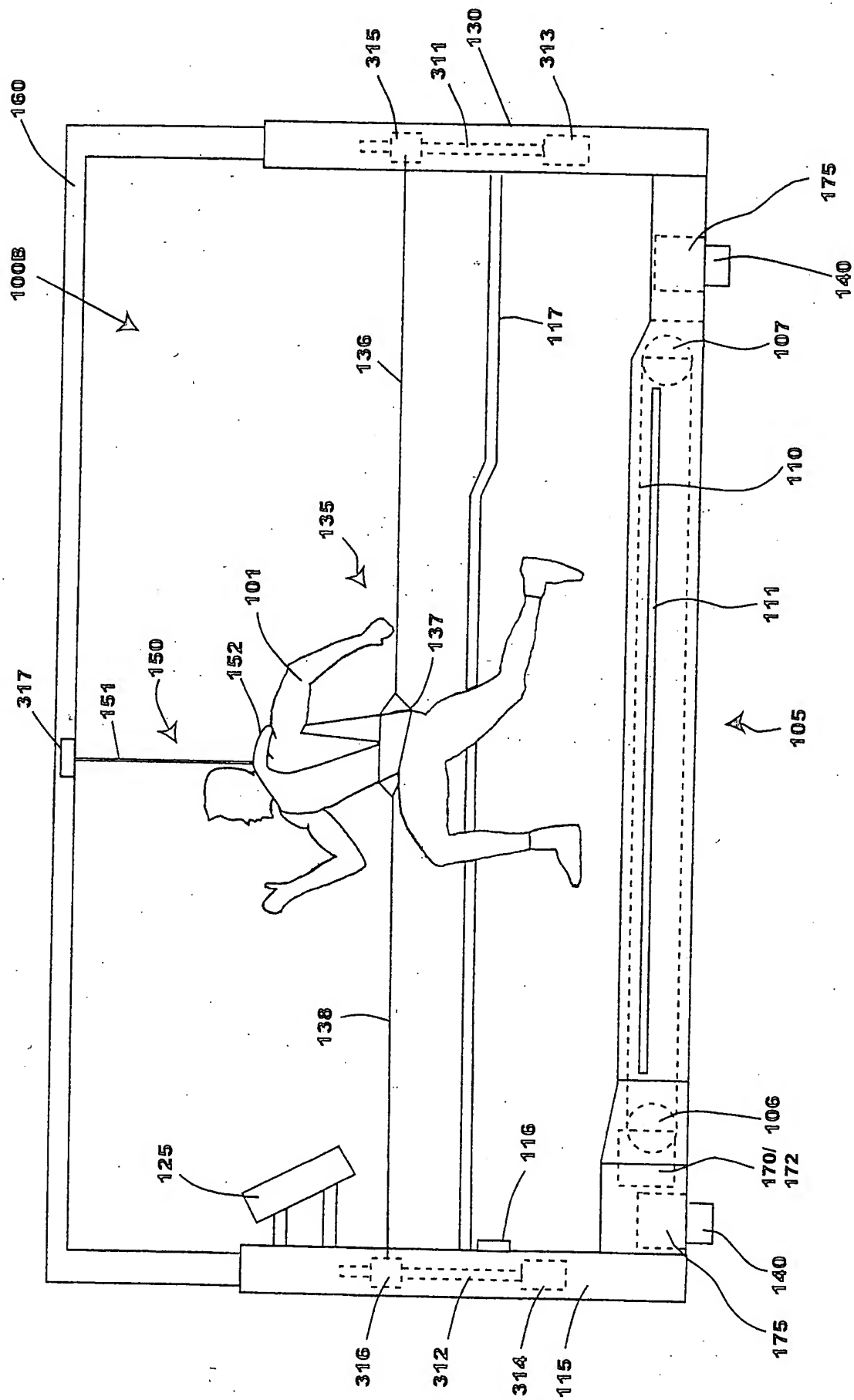


Fig. 1B

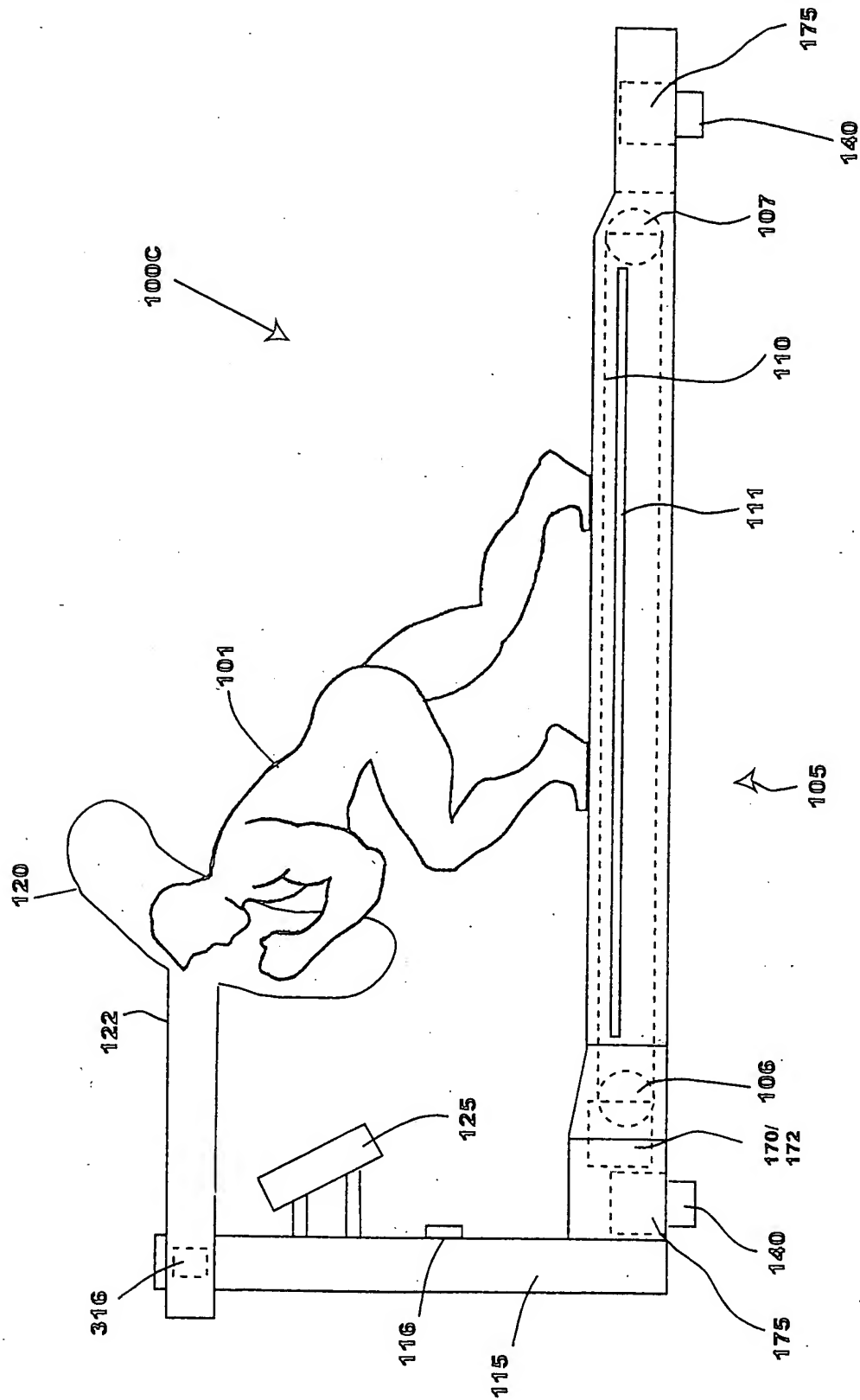


Fig. 1C

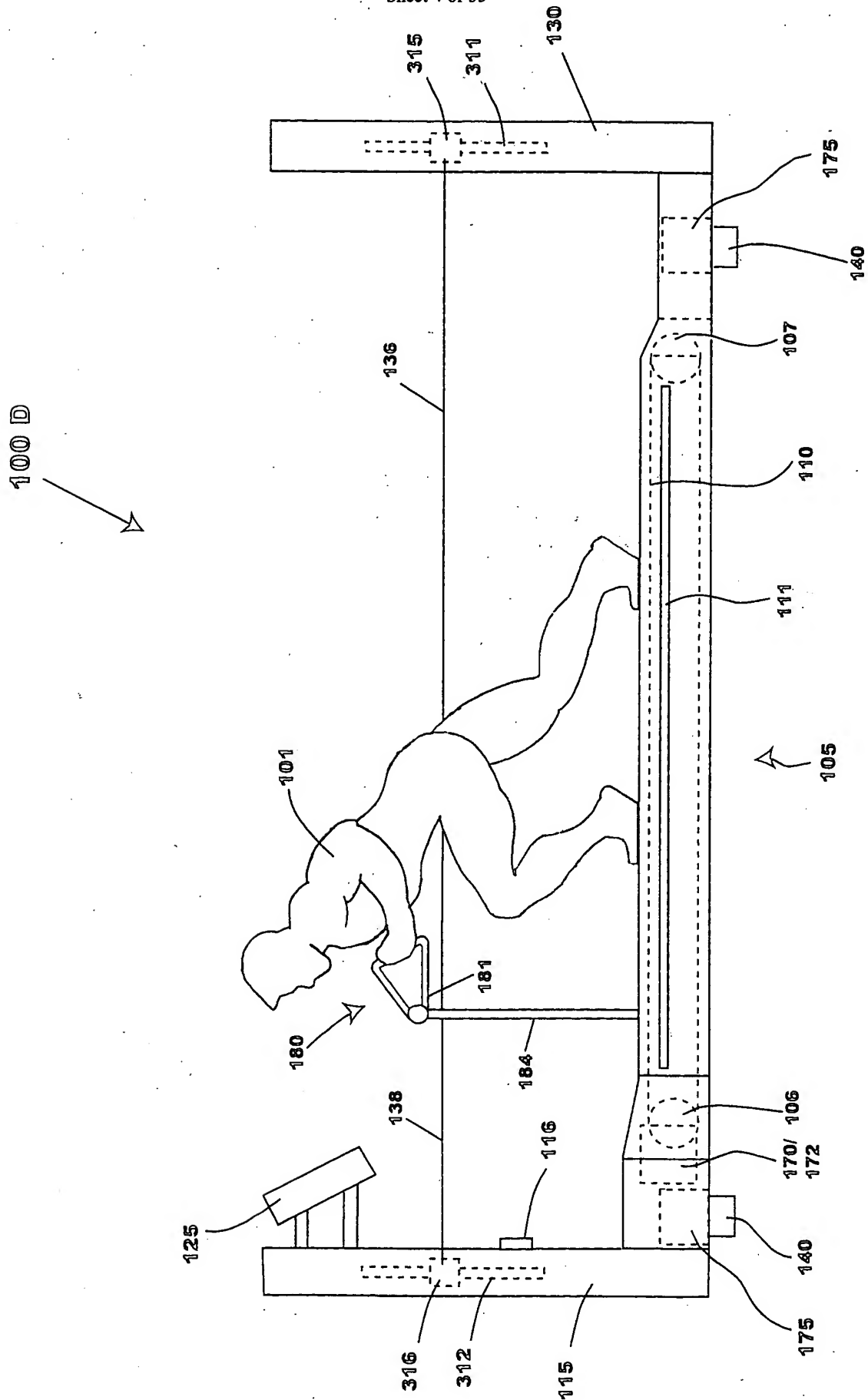
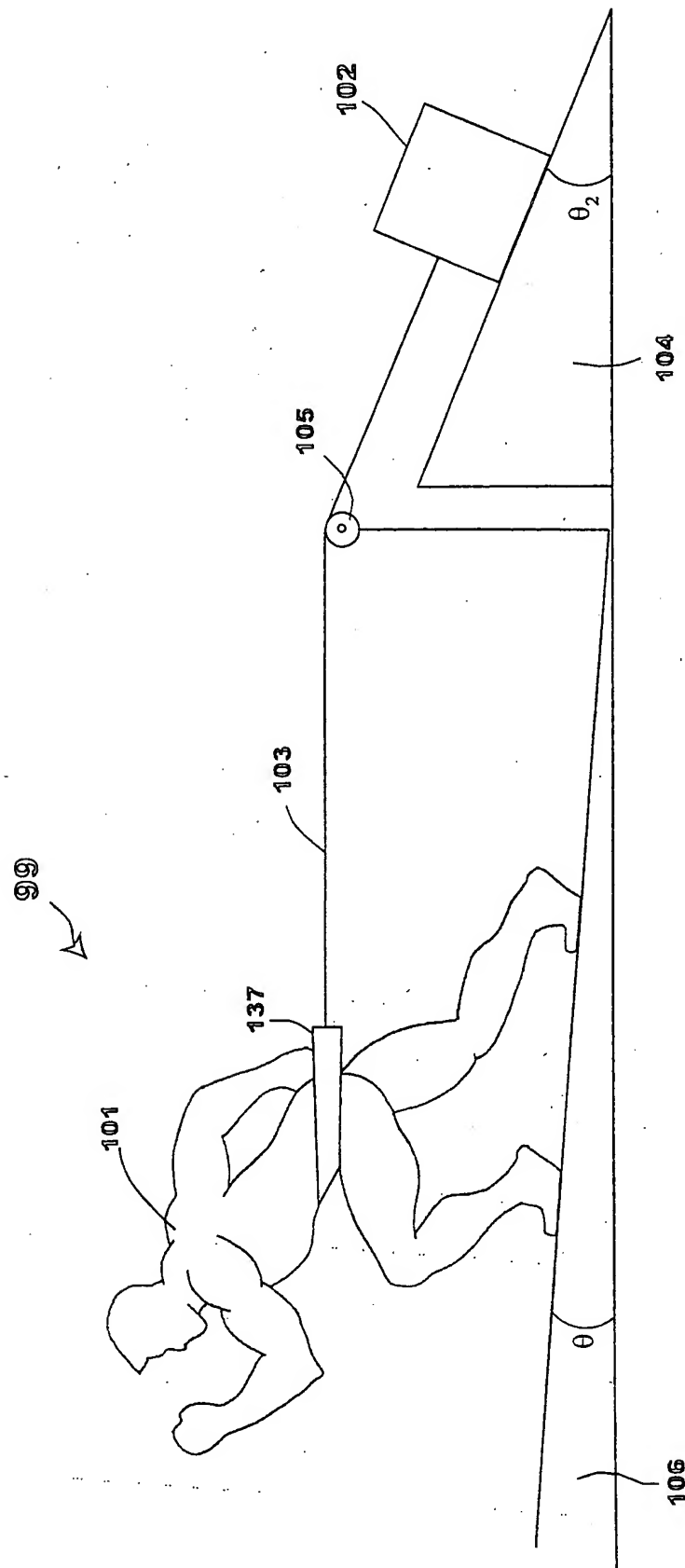


Fig. 1D



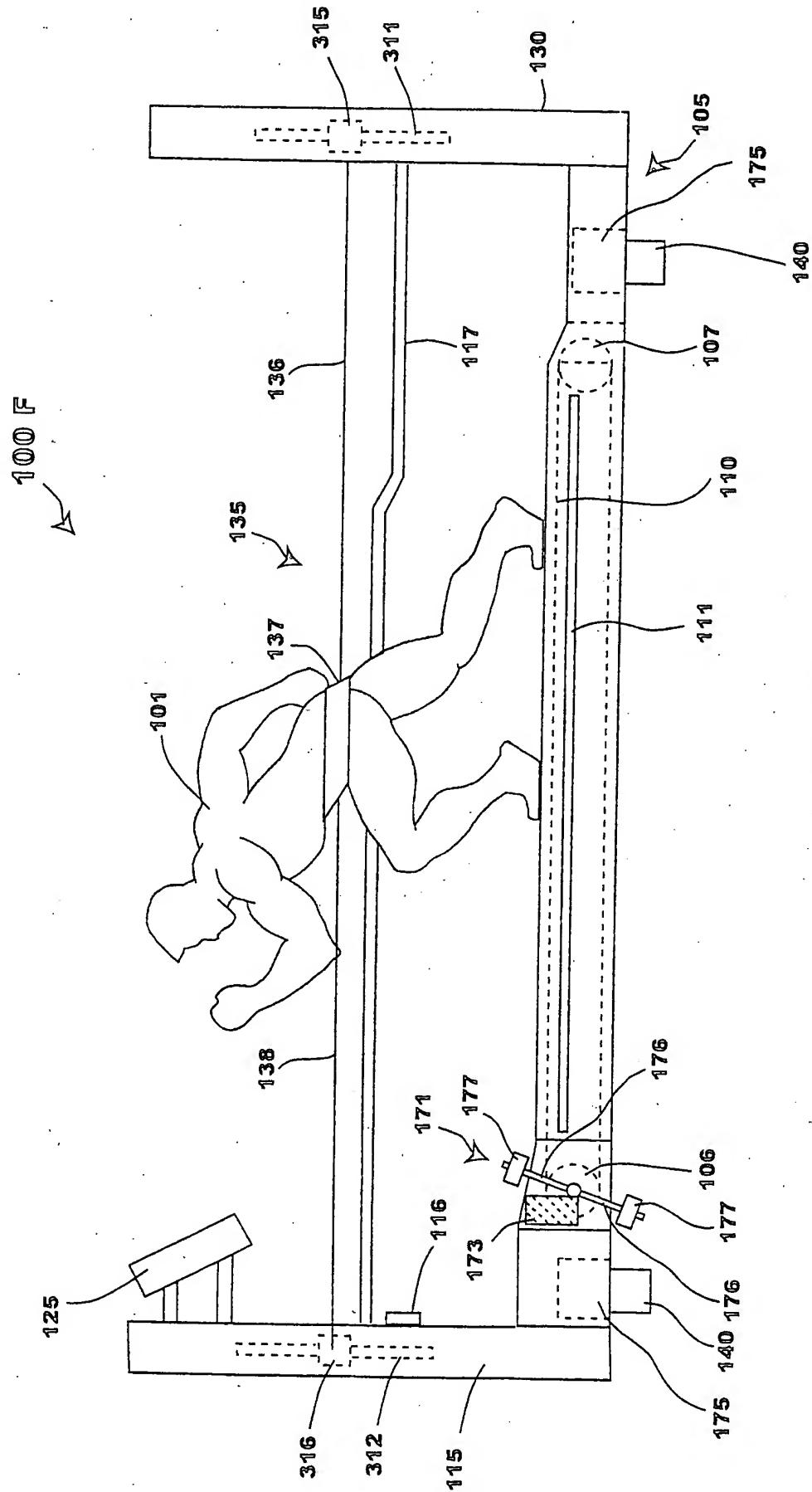


Fig. 1F

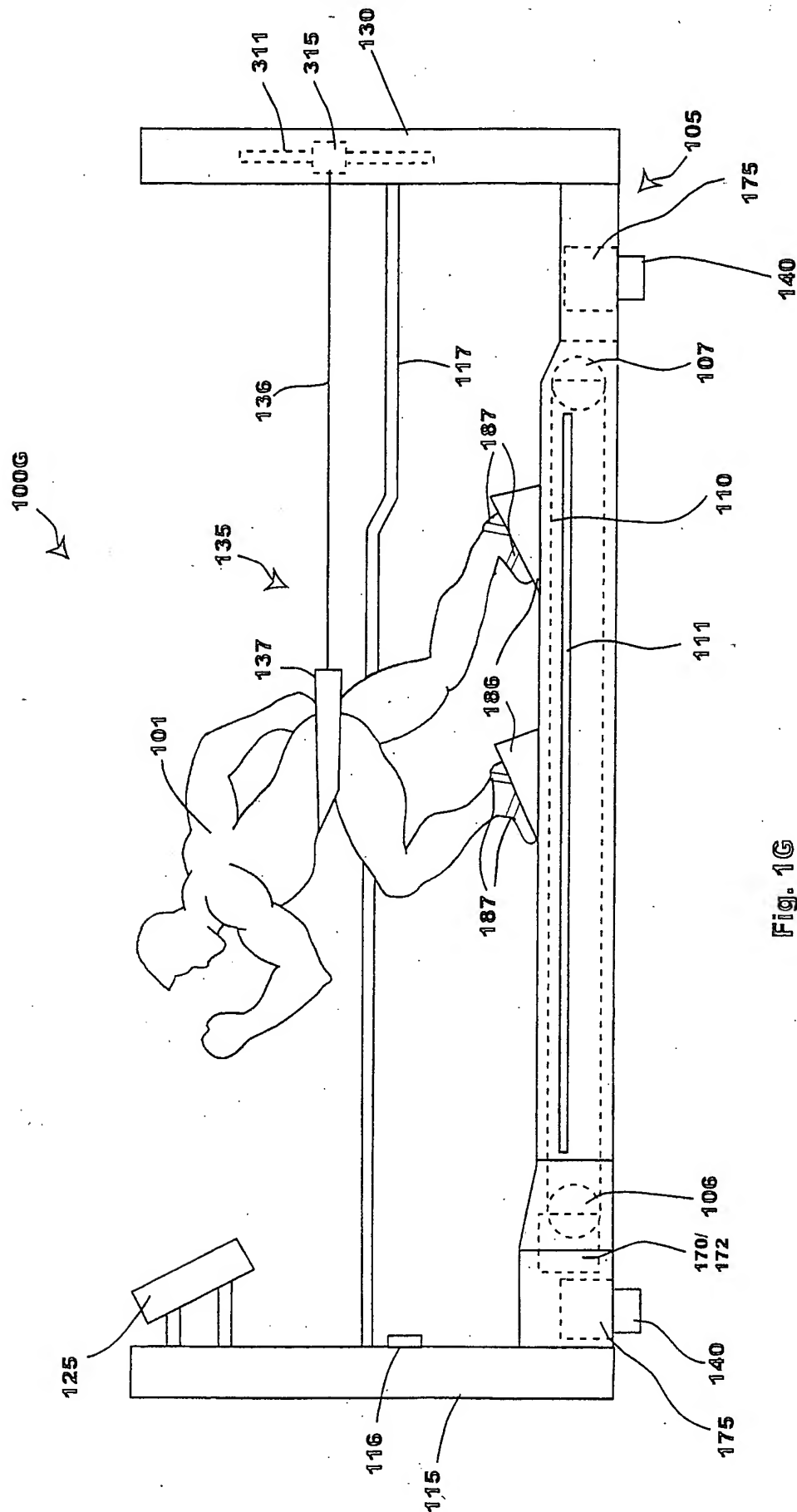
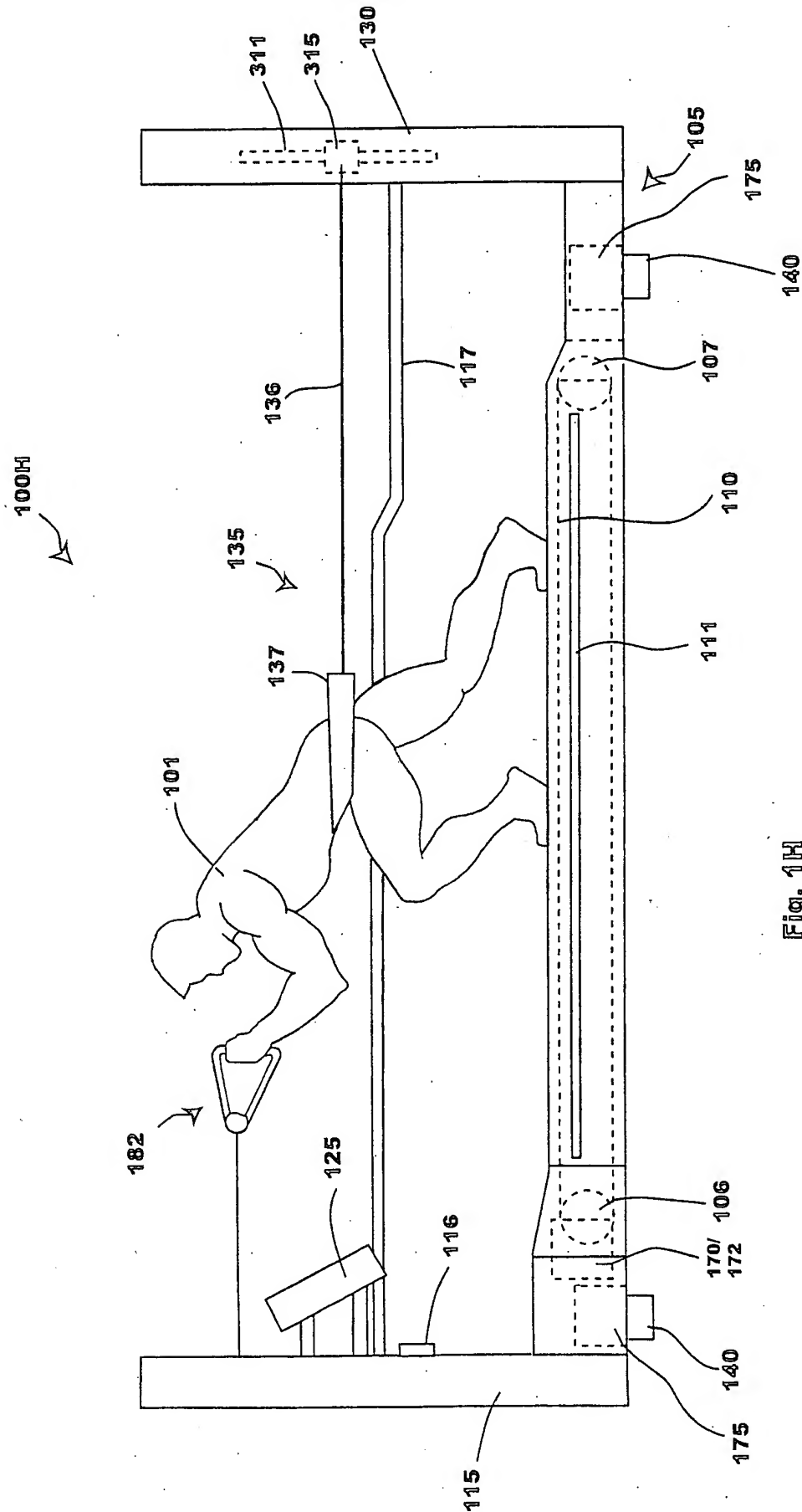
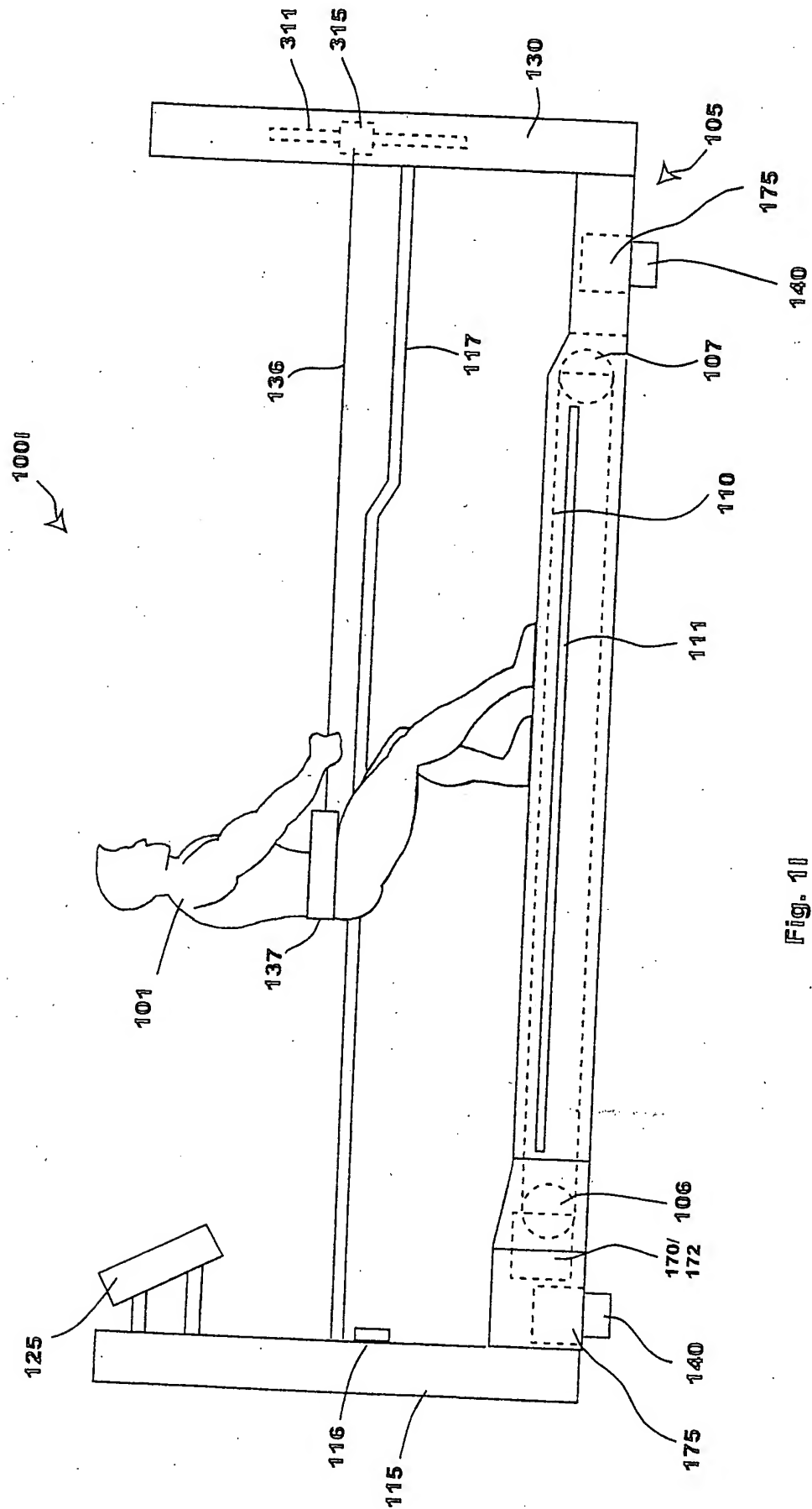
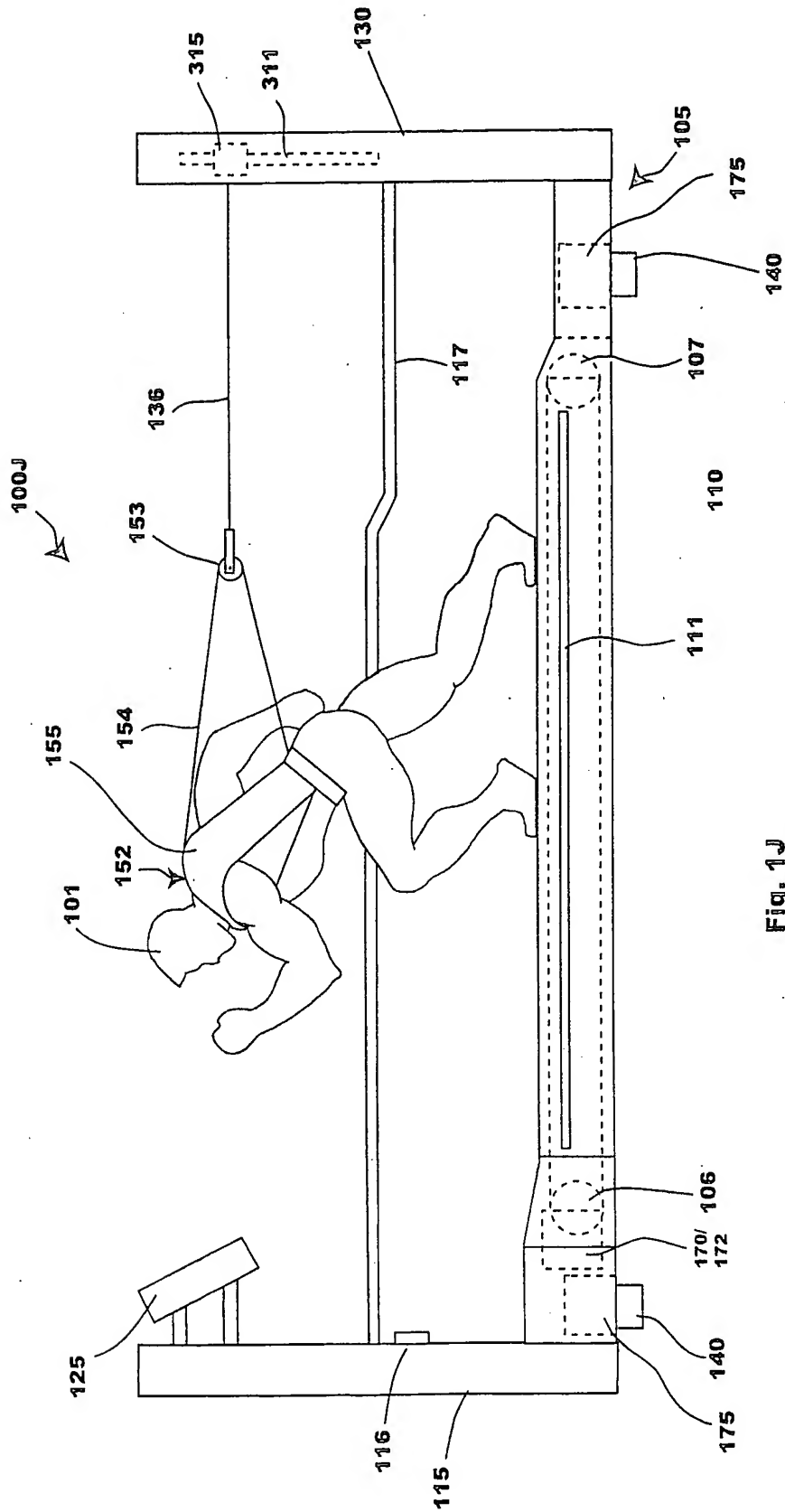
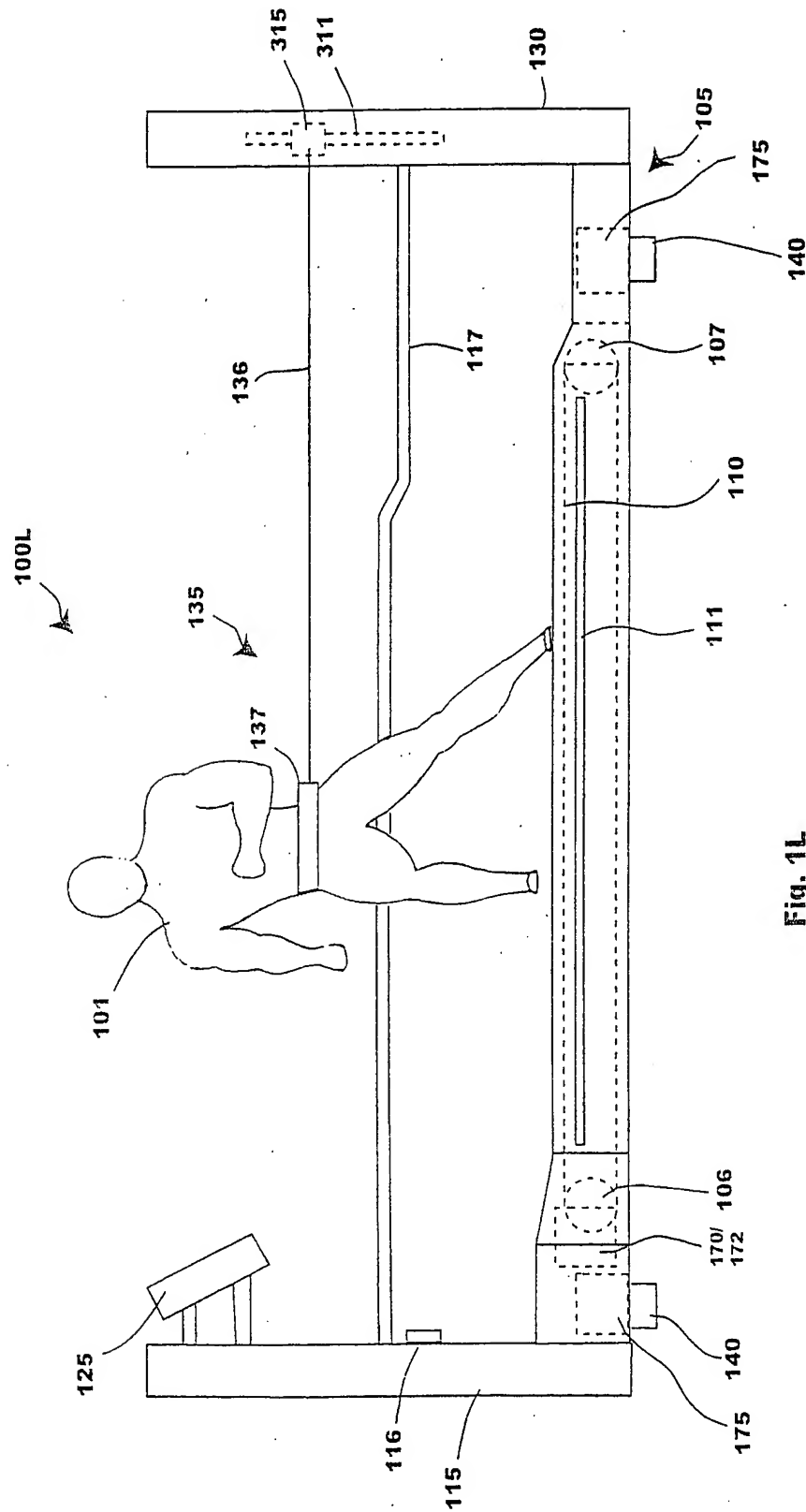


Fig. 1G









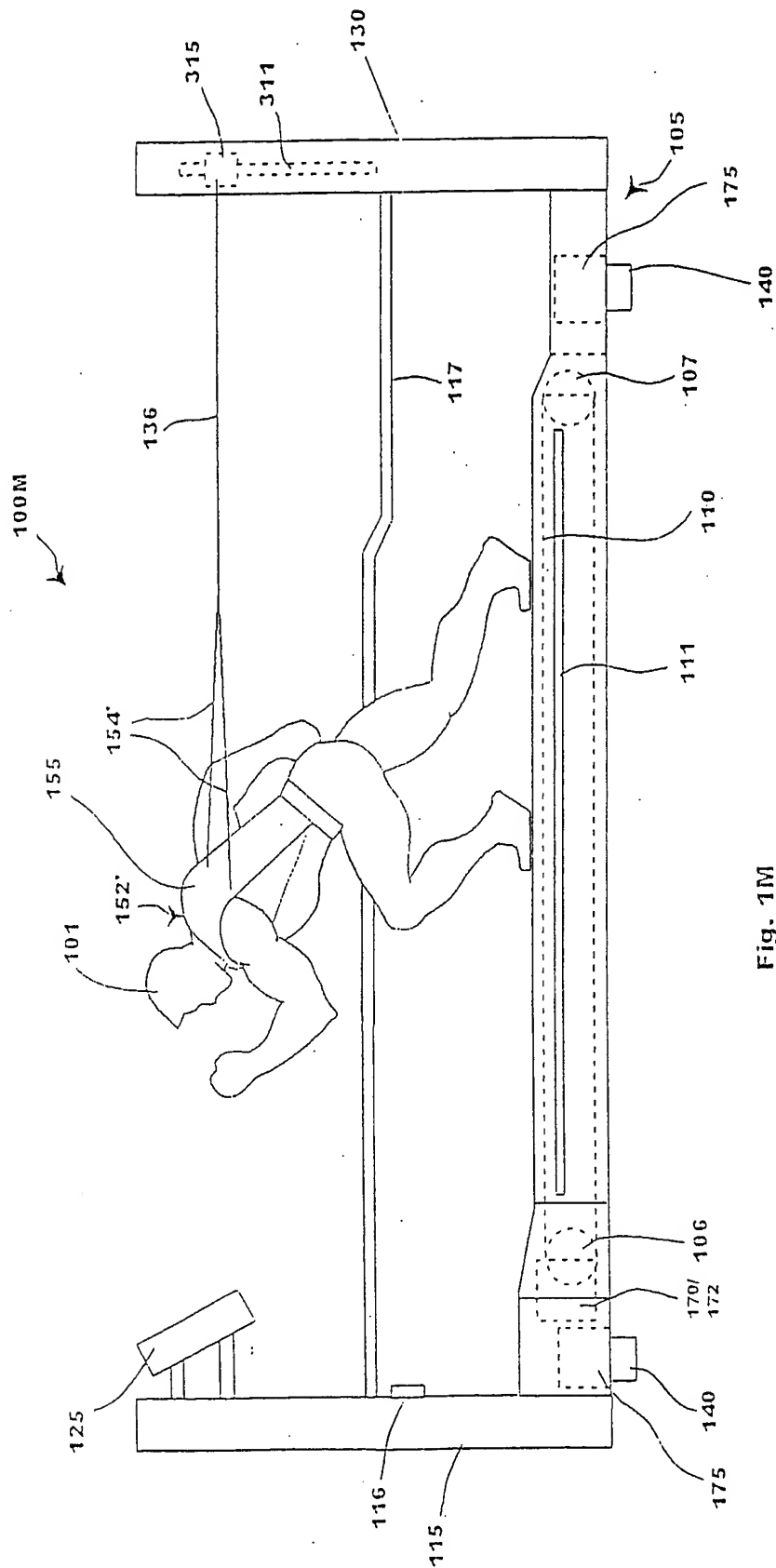
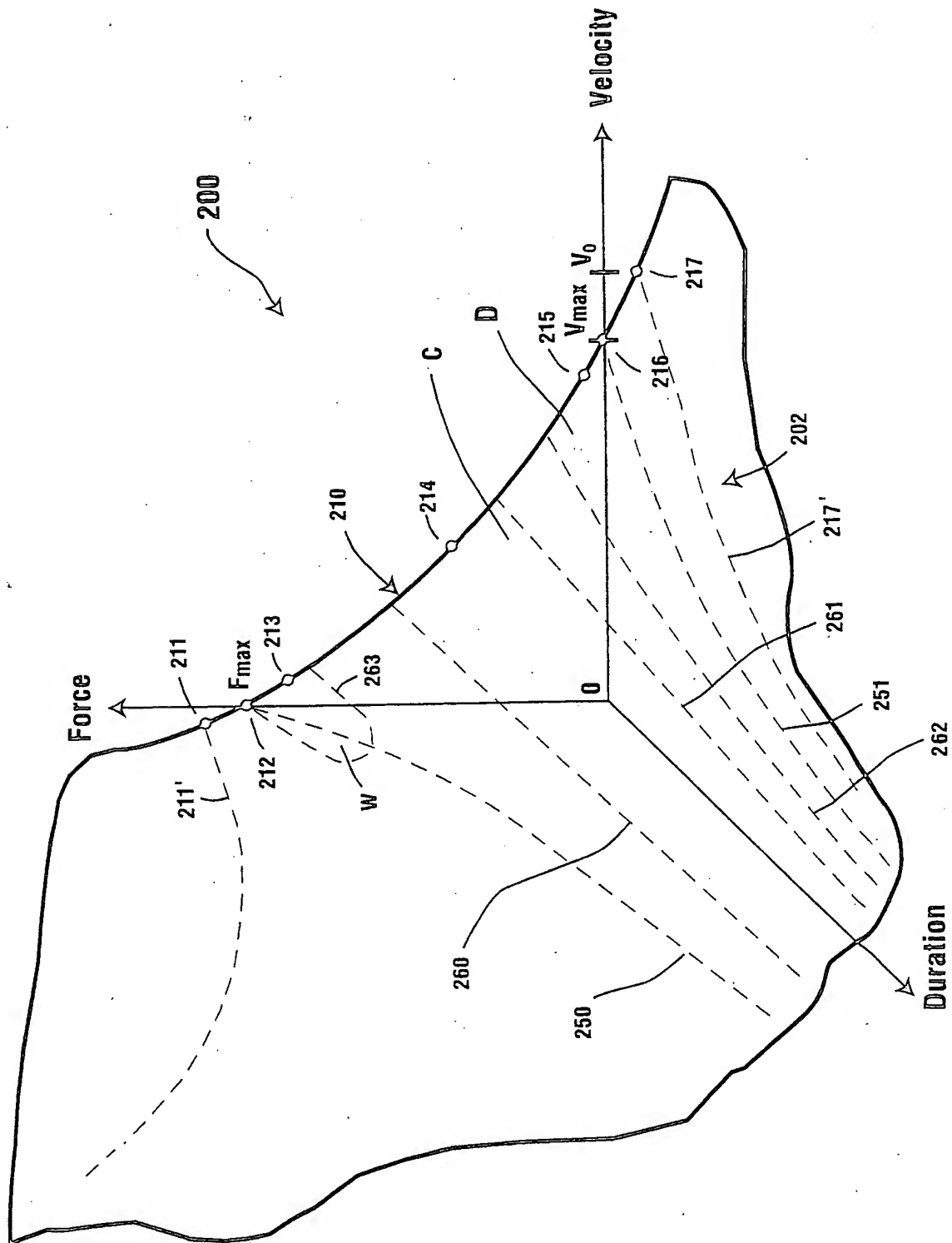


Fig. 1M

FIG. 2A -- Modes of Operation					
	Description	I.	II.	III.	IV.
	Mode	Sprint Simulation	Bob Sled Simulation	Isokinetic Overspeed	Isotonic Overspeed
	Predominant movement	Concentric	Concentric & Eccentric	Concentric	Concentric
	Force	Non-constant	Non-constant	Non-Constant	Constant
	Velocity	Non-constant	Non-constant	Constant	Non-Constant
	Direction of Motion	Forward	Forward & Reverse	Forward	Forward
	Harnessing	Alt (Fore optional)	Fore & Alt	Fore (Alt optional, Overhead optional)	Fore (Alt optional, Overhead optional)
	Equation of Motion	Eq. (3.1.2)	Eq. (3.2.2)	$V = V_o$	$F_1 = F_{set-l}$
Input Variables	m_1				
	H	m_1	m_1		m_1
	Q	Q	Q		
	m_2		m_2		
	F_d		F_d		
	D_1		D_1		
	$\{R_1, R_2, \dots\}$				$\{R_1, R_2, \dots\}$
	p			p	
	F_{set-l}				F_{set-l}
	F_{set-o}	F_{set-o} (optional)		F_{set-o} (optional)	F_{set-o} (optional)
Calculated Variables	D_r or T_r	D_r or T_r	D_r or T_r	D_r or T_r	D_r or T_r
	Drag coef. of running subject				
	Overspeed Velocity	C_1	C_1		
	Virtual mass	m_1^* (optional)		V_o	
Measured Data	Velocity	V	V		
	Force (Alt)	F_a	F_a	F_a (optional)	V
	Force (Fore)	F_f	F_f	F_f	F_f
	Force (Overhead)				F_o
Calculated Data	D	D	D	D	D
	$V_{(update)}$	$V_{(update)}$	$V_{(update)}$		$V_{(update)}$
	A	A	A	A	A
	Initial Acceleration				
	Terminal velocity determination				Concentric Non-Constant Non-Constant Forward Overhead Velocity increase until runner failure

FIG. 2B -- Modes of Operation					
	Description	VI.	VII.	VIII.	IX.
	Mode	Forward Constant Load	Reverse Constant Load	Constant Force	Constant Velocity
	Predominant movement	Concentric	Eccentric	Concentric/Eccentric	Concentric/Eccentric
	Force	Non-constant	Non-constant	Constant	Non-Constant
	Velocity	Non-constant	Non-constant	Non-Constant	Constant
	Direction of Motion	Forward	Reverse	Forward/Reverse	Forward/Reverse
	Harnessing	Alt (Fore optional)	Alt, Overhead	Alt	Alt/Fore
	Equation of Motion	Eq. (3.6.2)	Eq. (3.7.2)	velocity adjustment until $F_a = F_{set}$.	$V = V_{set}$
Input Variables					
m_1	Mass of subject	m_1	m_1		
H	Height of subject				
Q	Cross-sectional area of subject				
m_2	Mass of Load	m_2	m_2		
F_d	Additional Drag (e.g., of Load)	F_d	F_d		
V_{set}	Velocity Set				V_{set}
F_{set-a}	Alt Force Set			F_{set-a}	
F_{set-o}	Overhead Force Set	F_{set-o} (optional)	F_{set-o} (optional)	F_{set-o} (optional)	F_{set-o} (optional)
D_T or T_T	Termination variable (d=distance, D=duration)	D_T or T_T	D_T or T_T	D_T or T_T	D_T or T_T
Calculated Variables					
m_1^*	Virtual Mass	m_1^*	m_1^*		
Measured Data					
V	Velocity	V	V	V	V
F_a	Force (Alt)	F_a	F_a	F_a	F_a
F_t	Force (Fore)	F_t (optional)		F_t	F_t
Calculated Data					
D	Distance	D	D	D	D
V(update)	Update velocity	V(update)	V(update)	V(update)	V(update)
A	Acceleration	A	A	A	A



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Fig. 4B

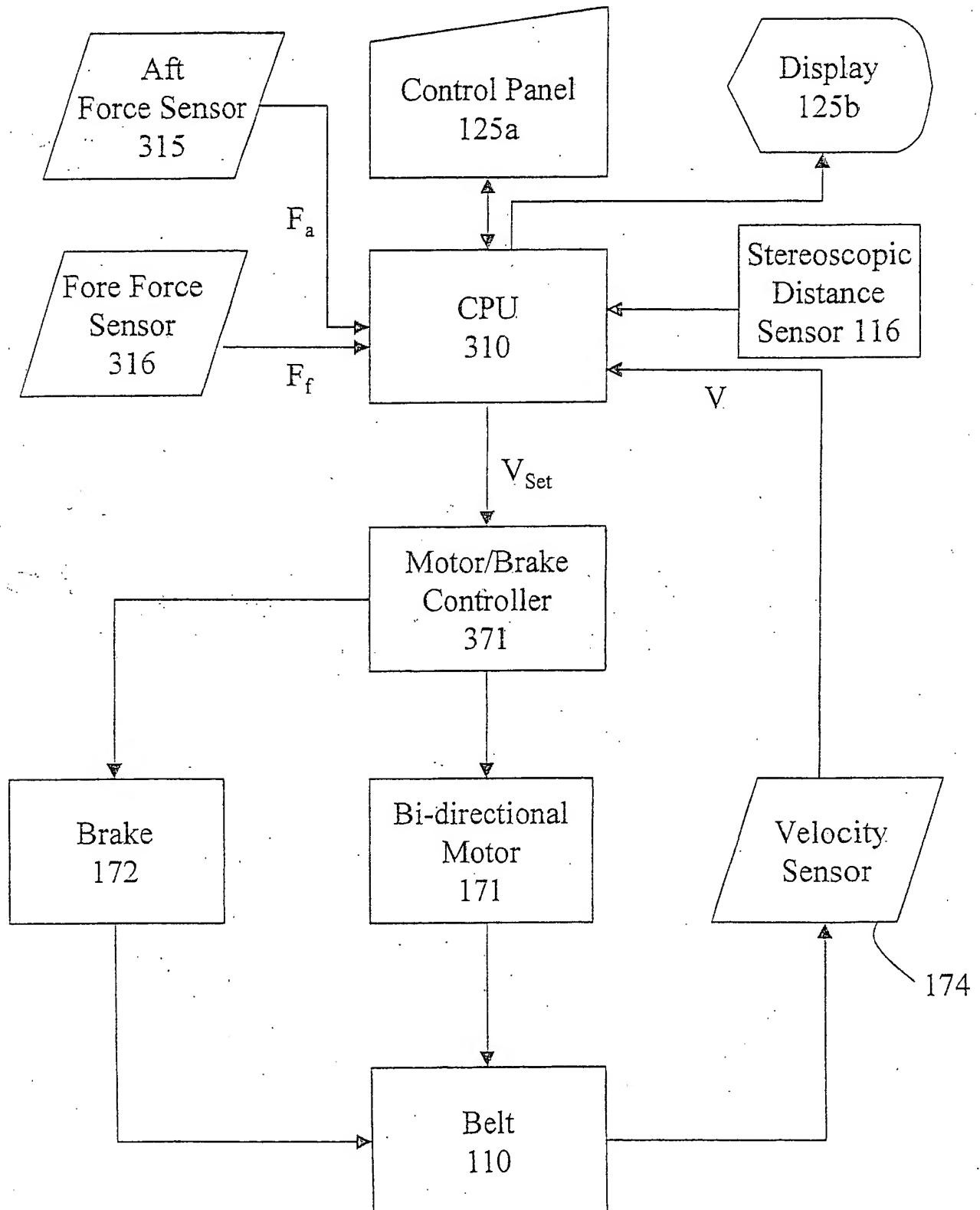


Fig. 4C

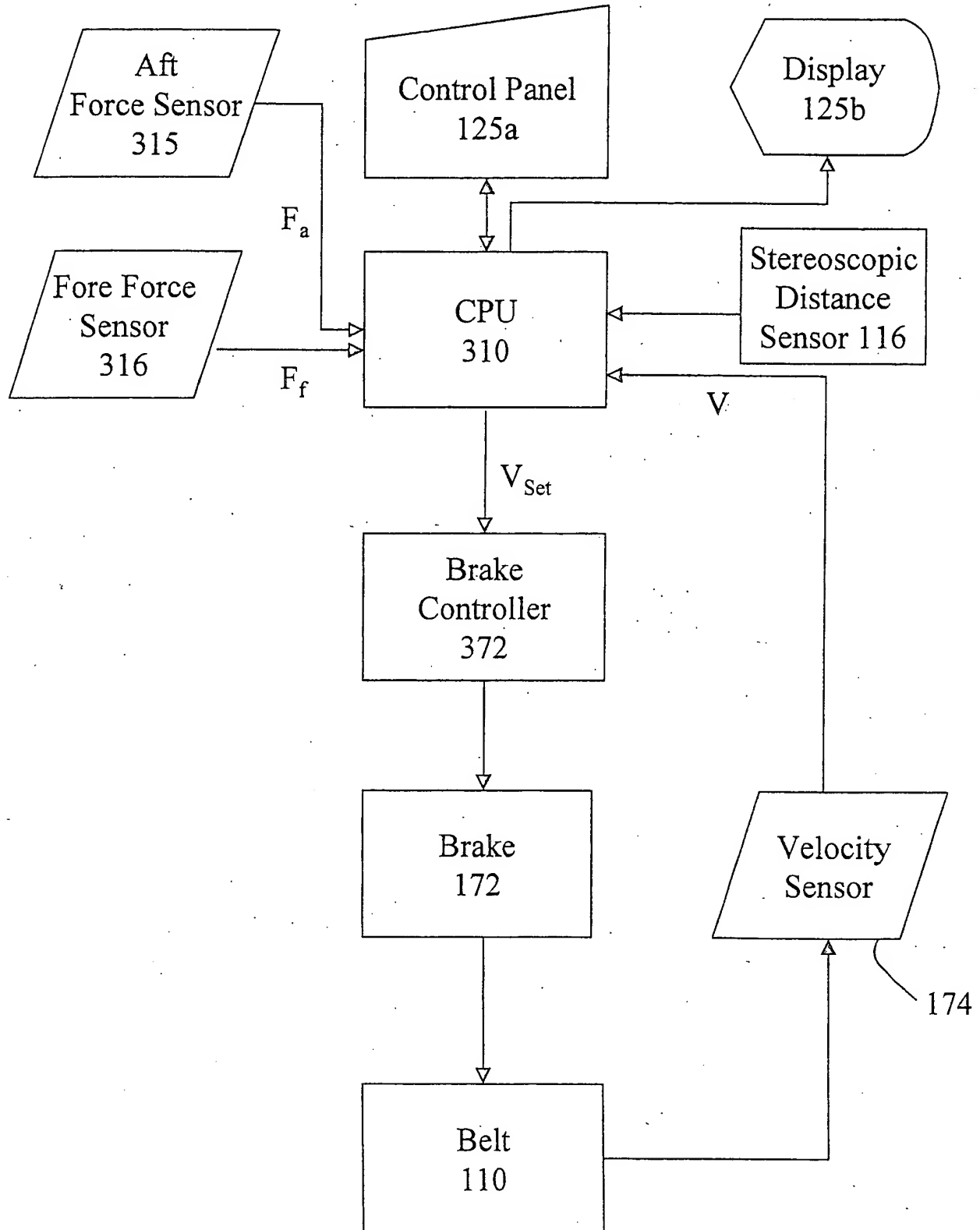
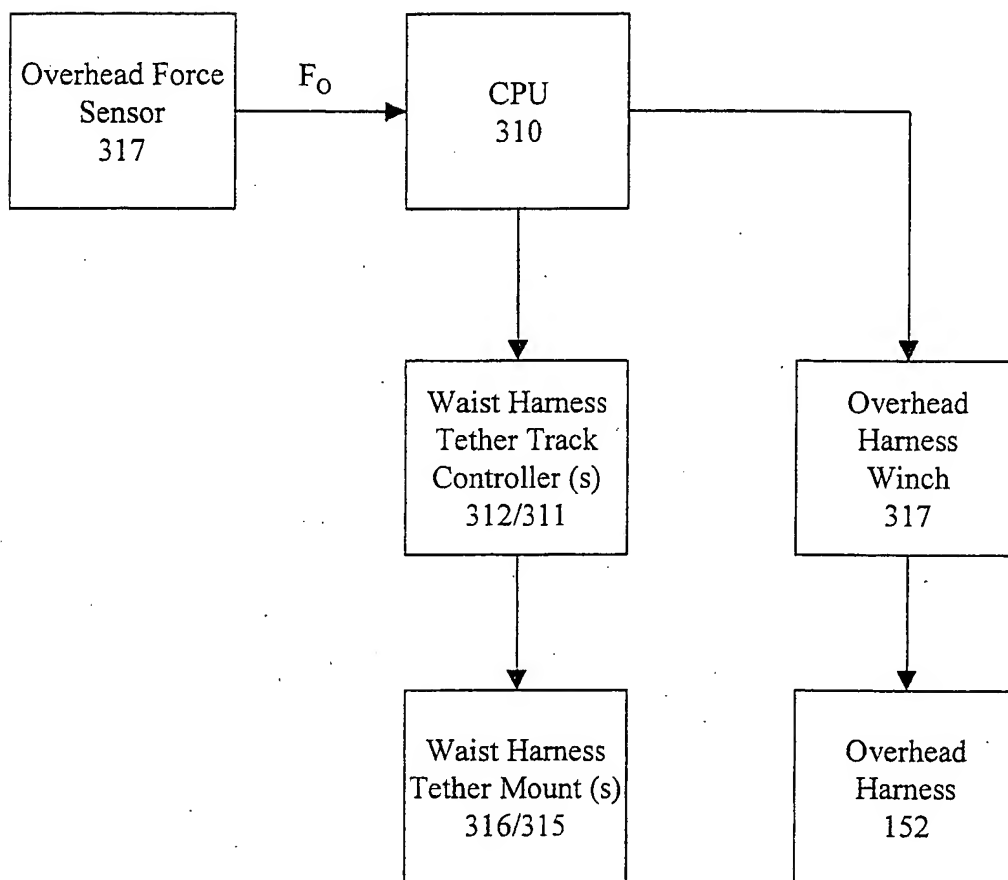
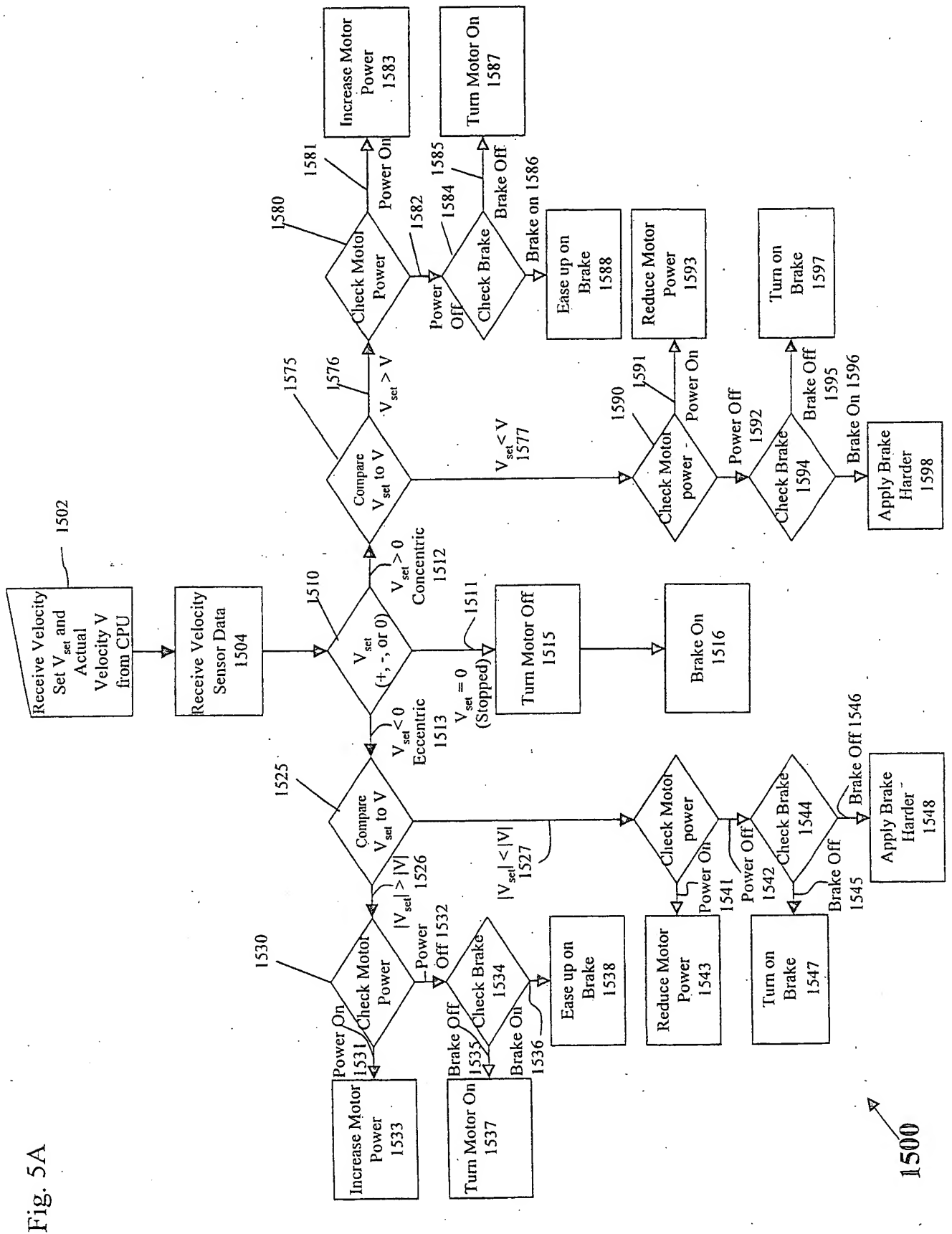


Fig. 4D





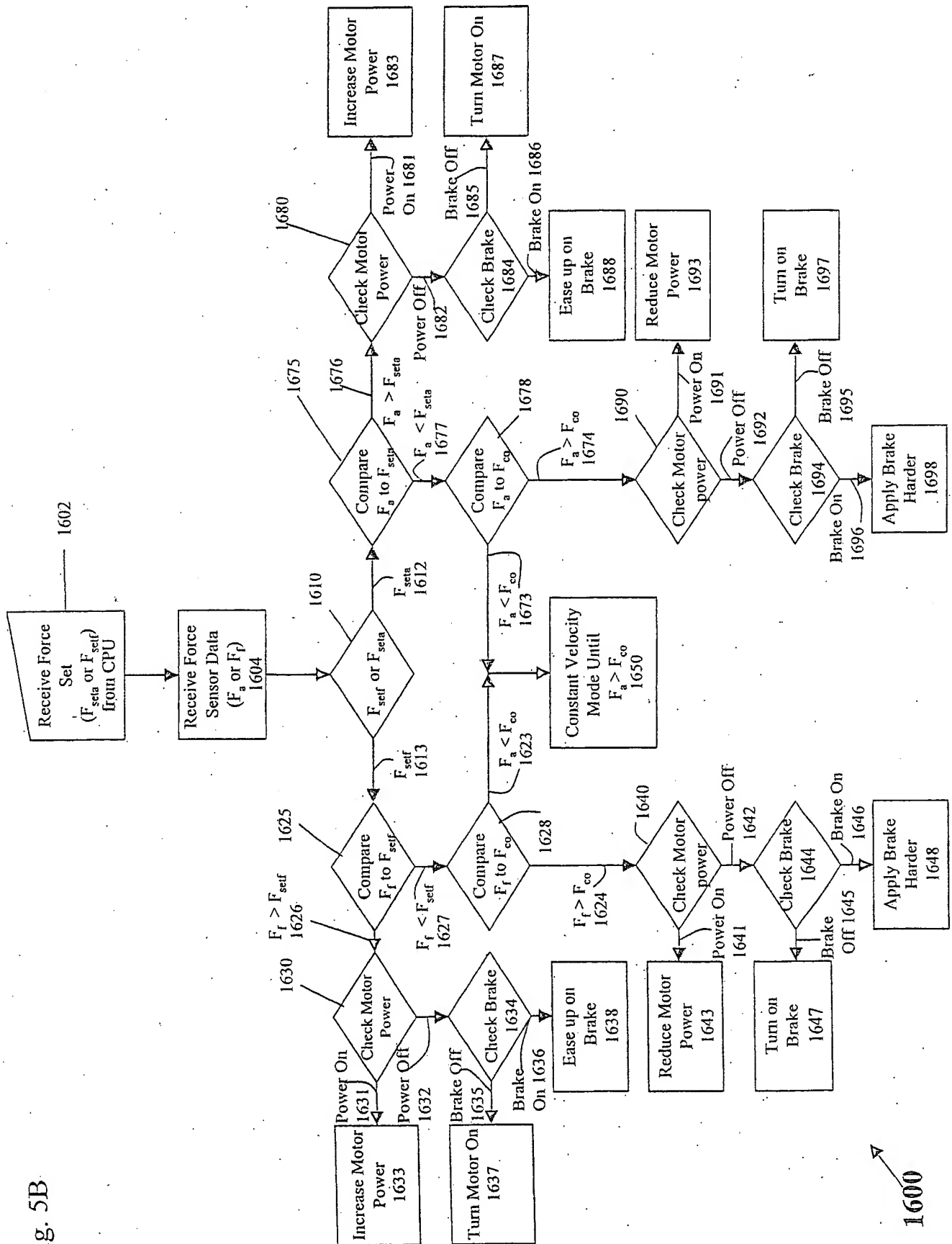
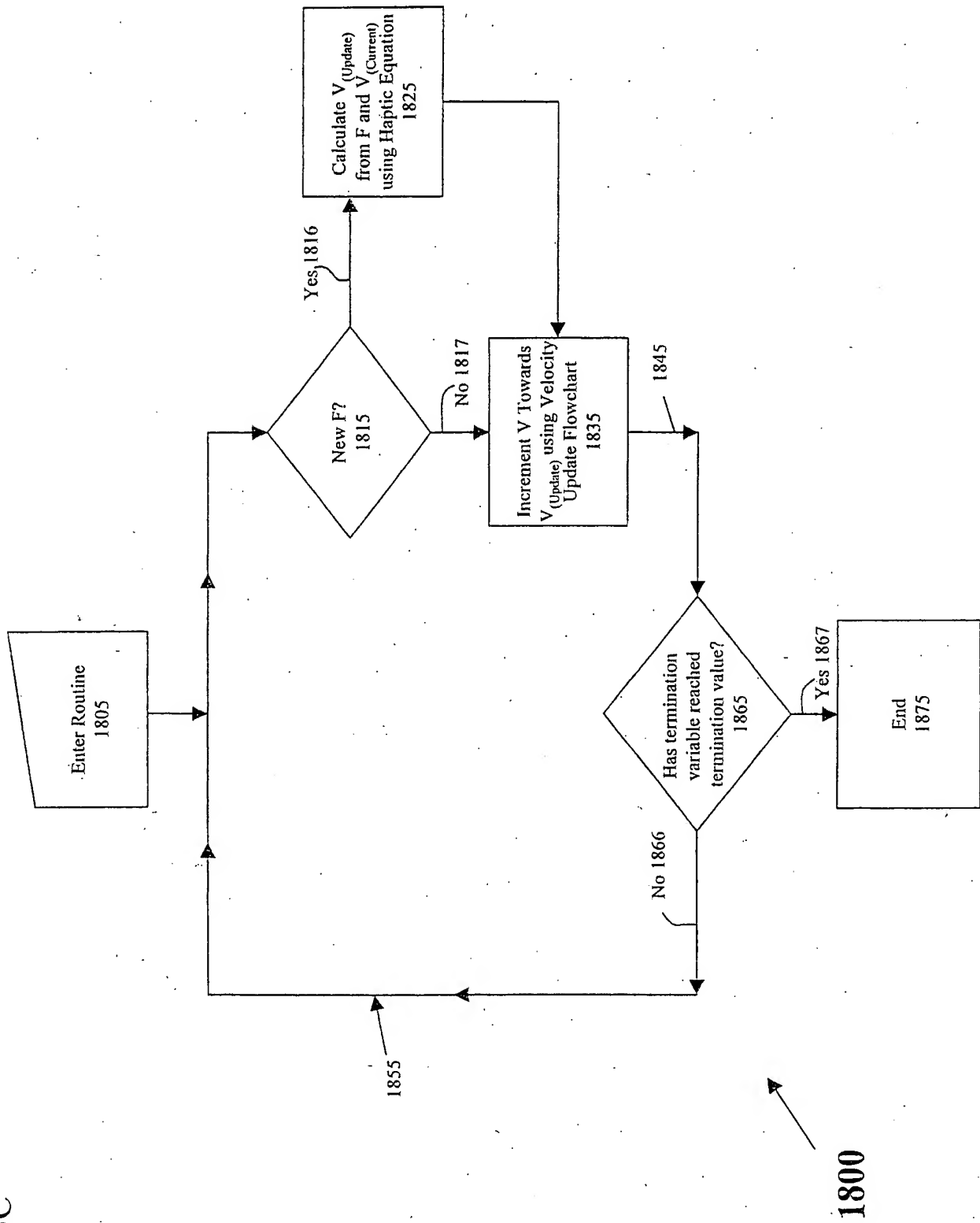
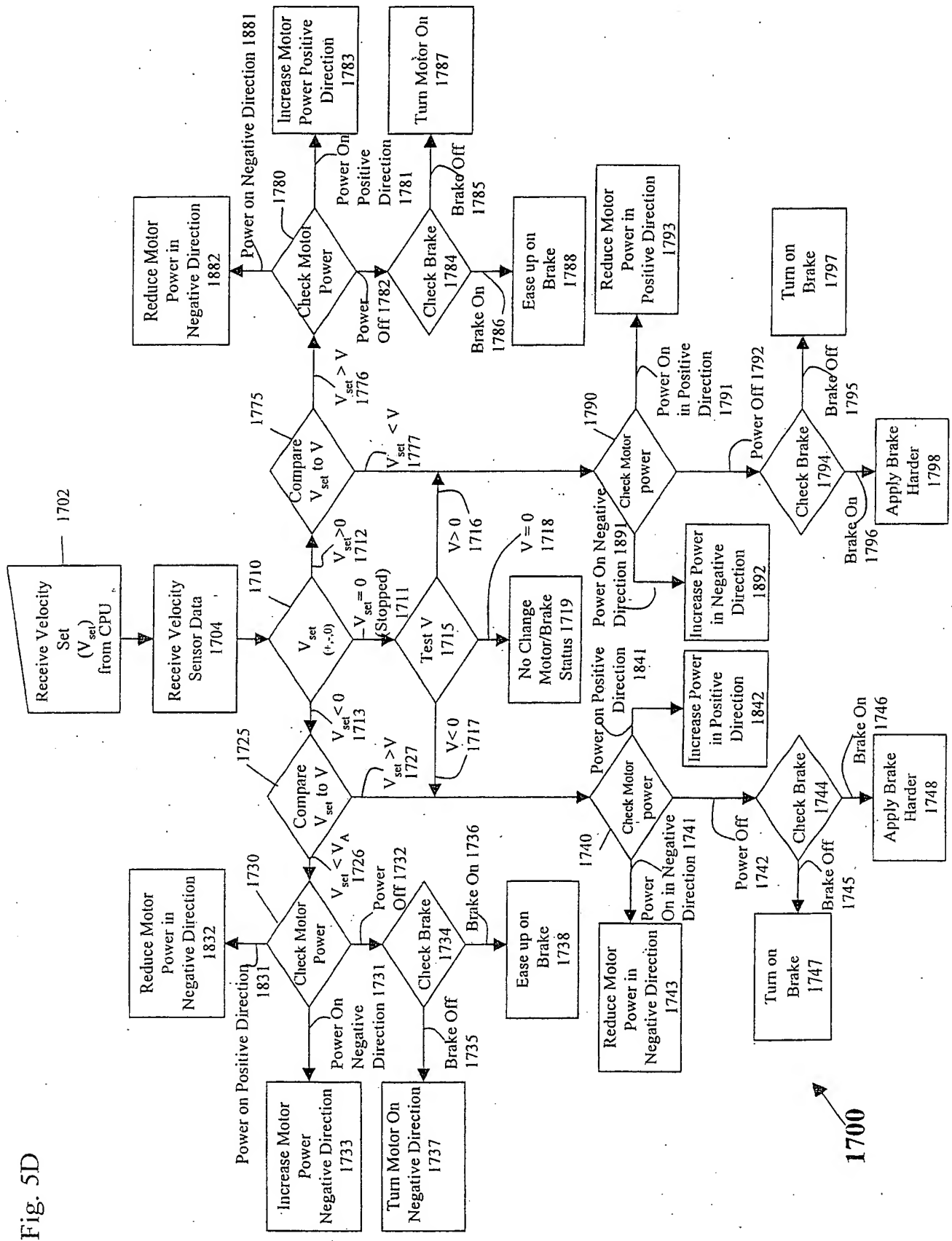


Fig. 5C





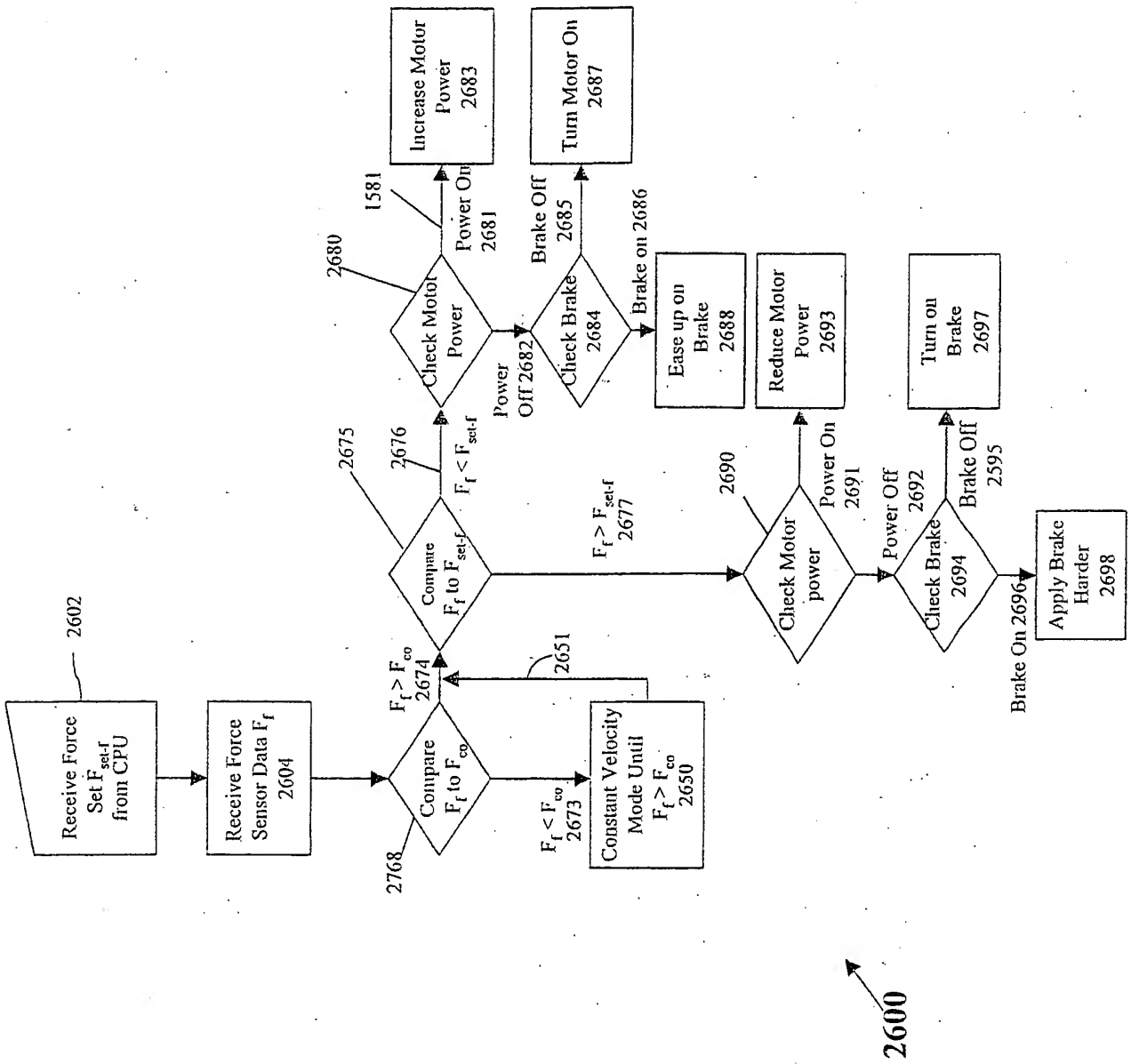
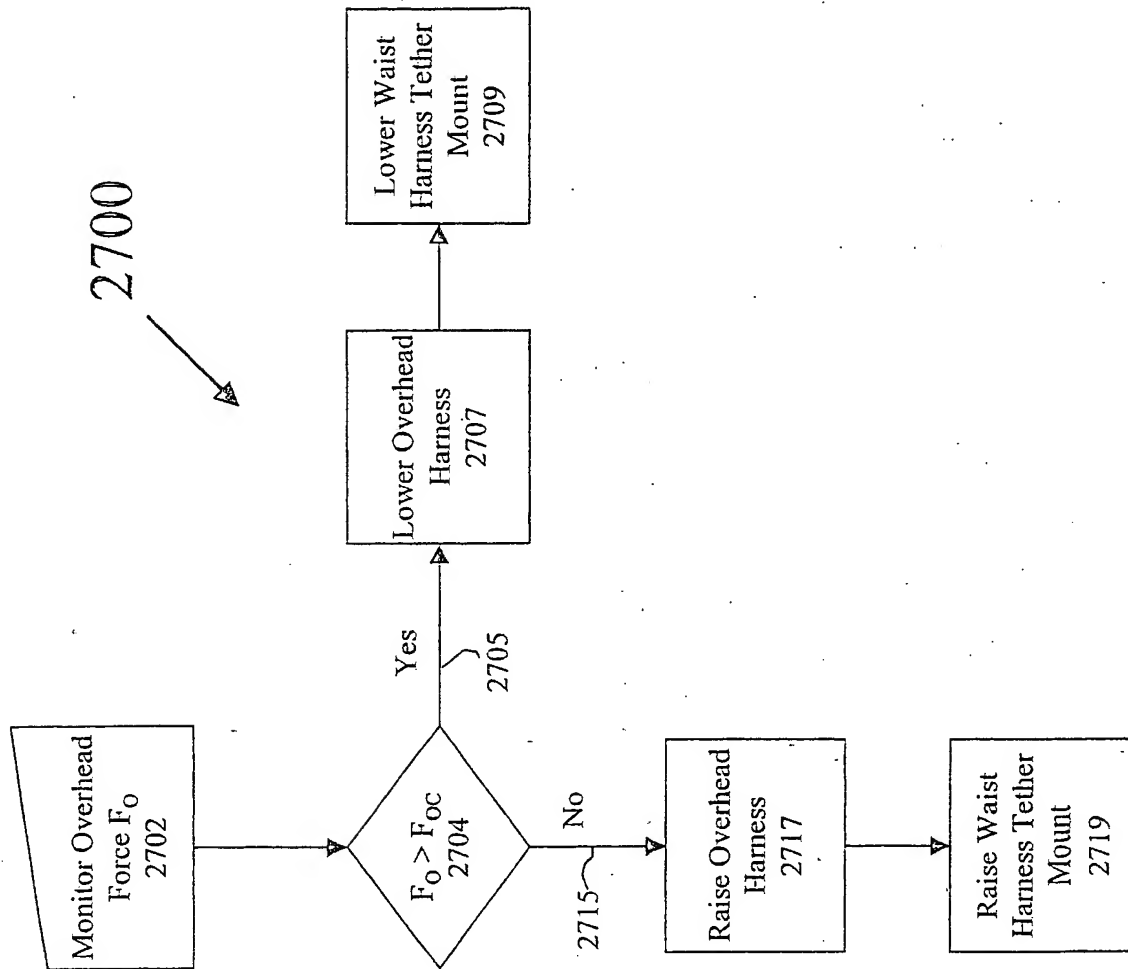


Fig. 5F



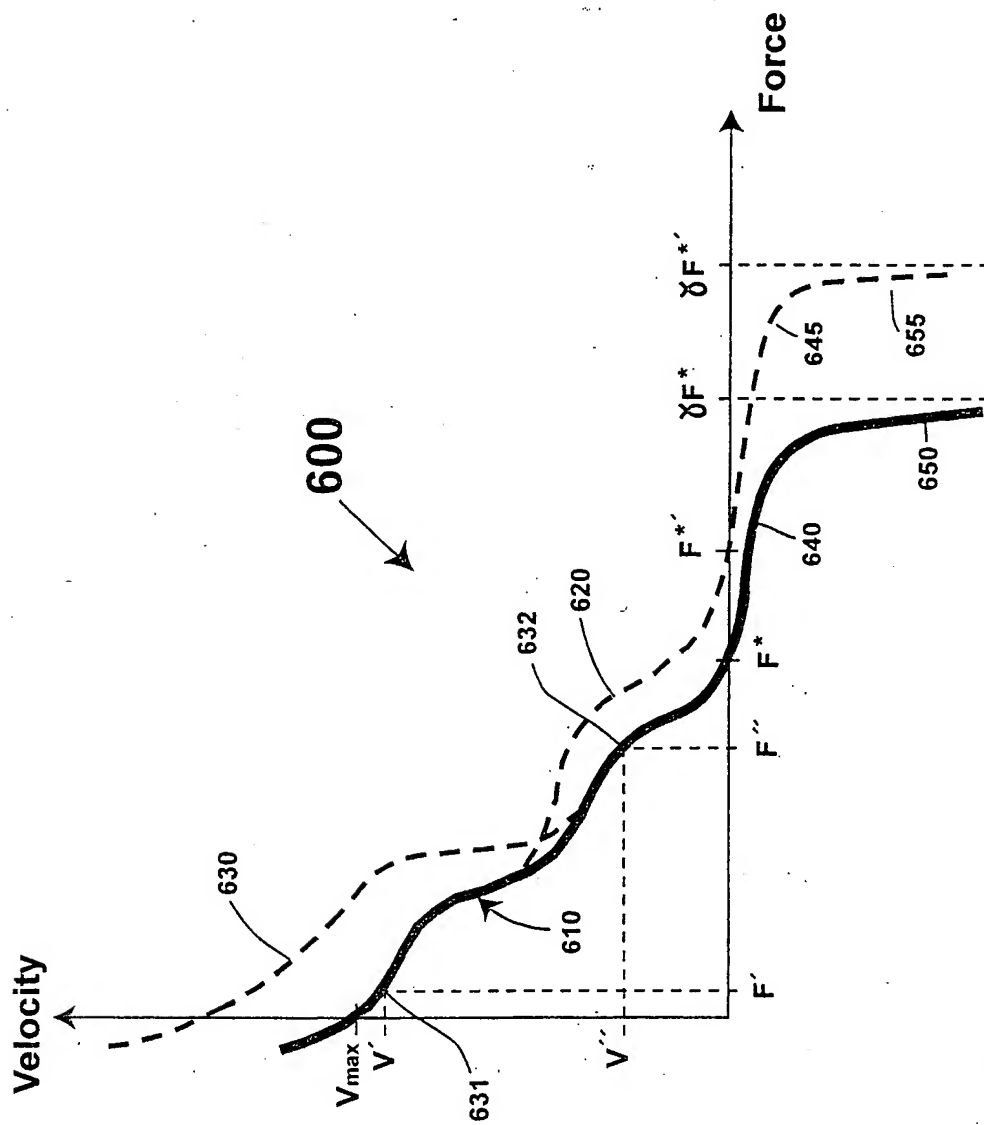


Fig. 6

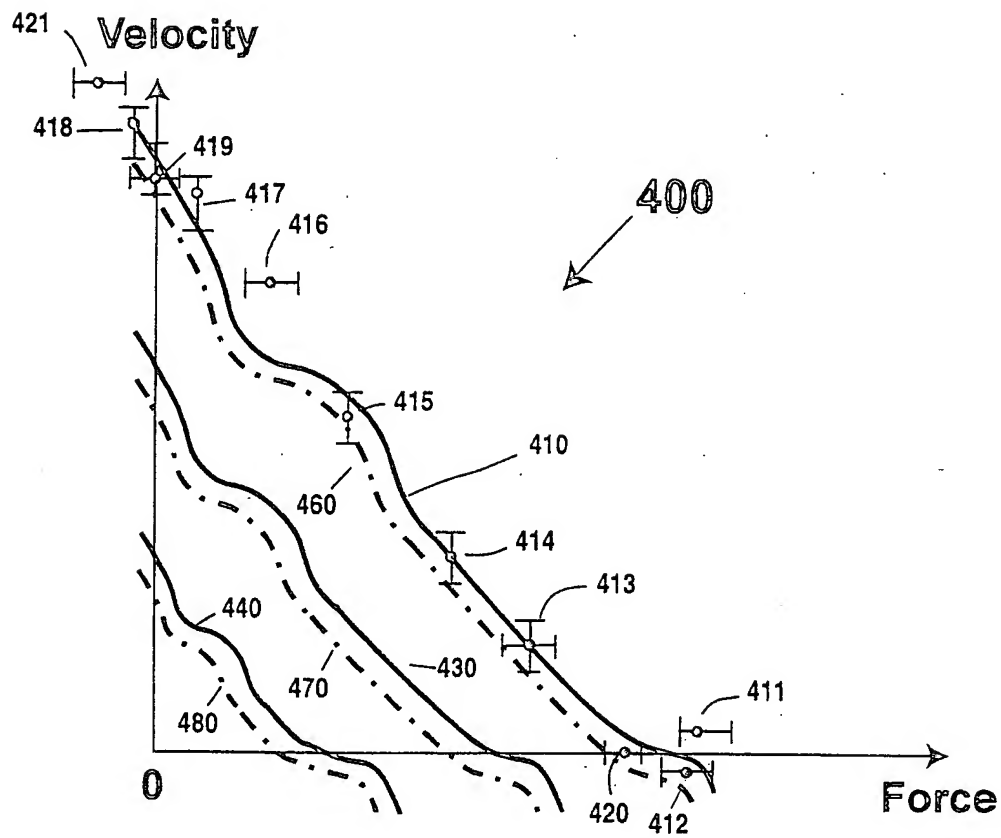


Fig. 7

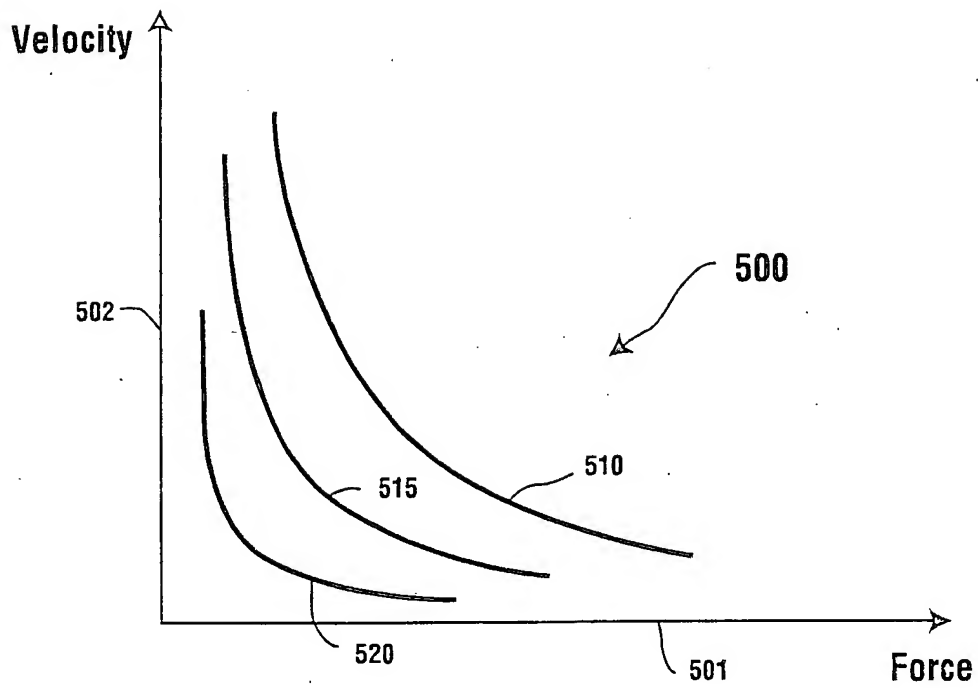


Fig. 8

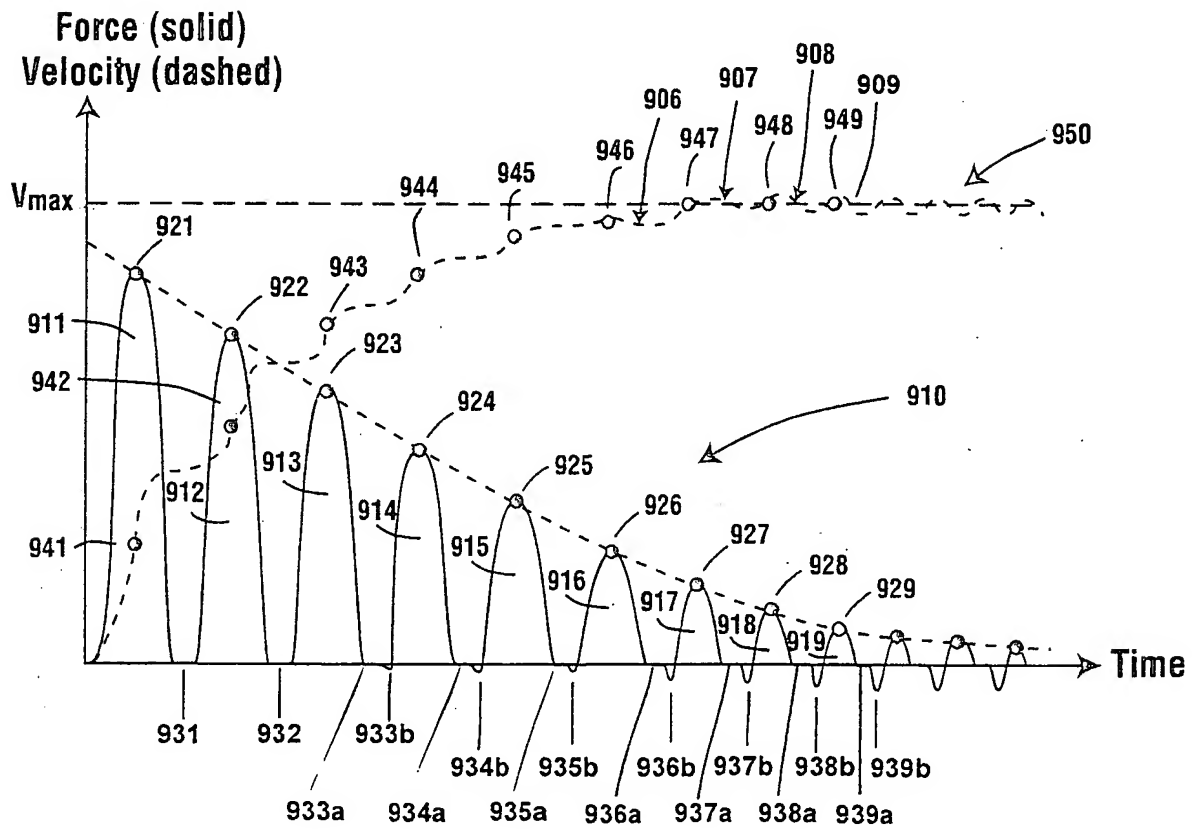
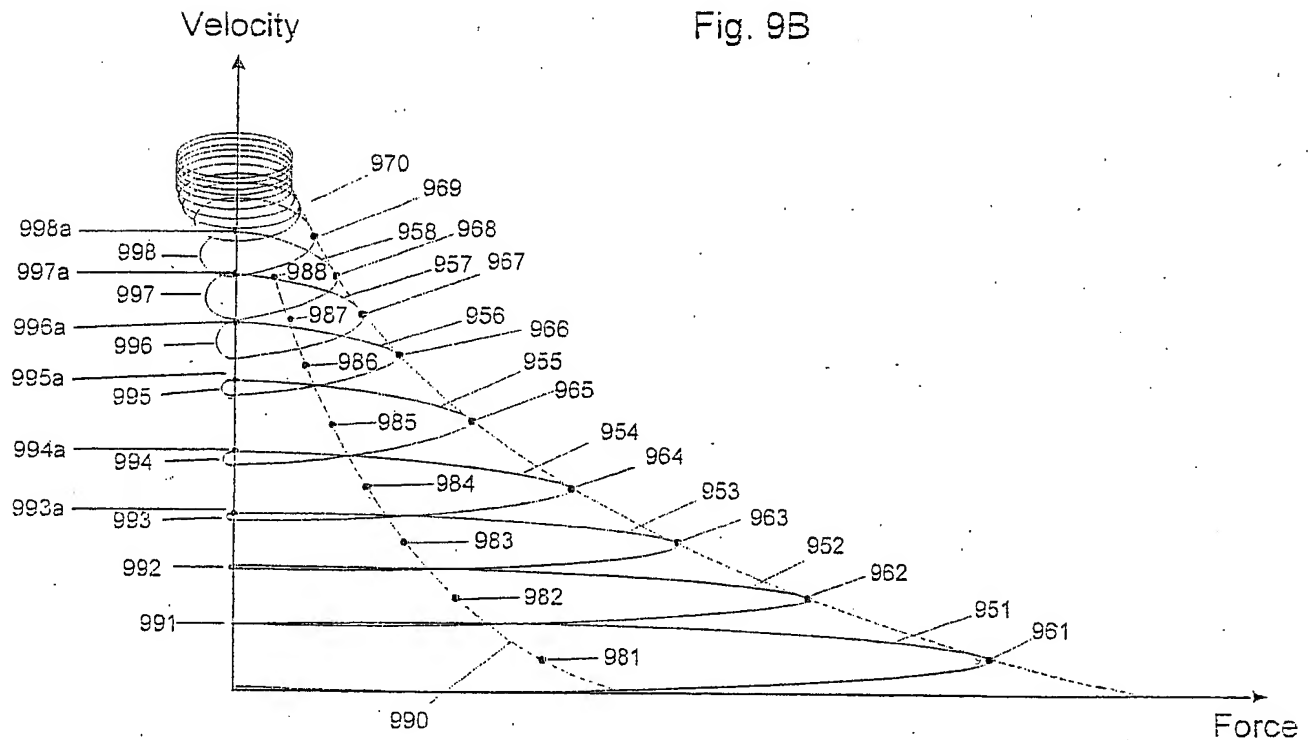


Fig. 9A



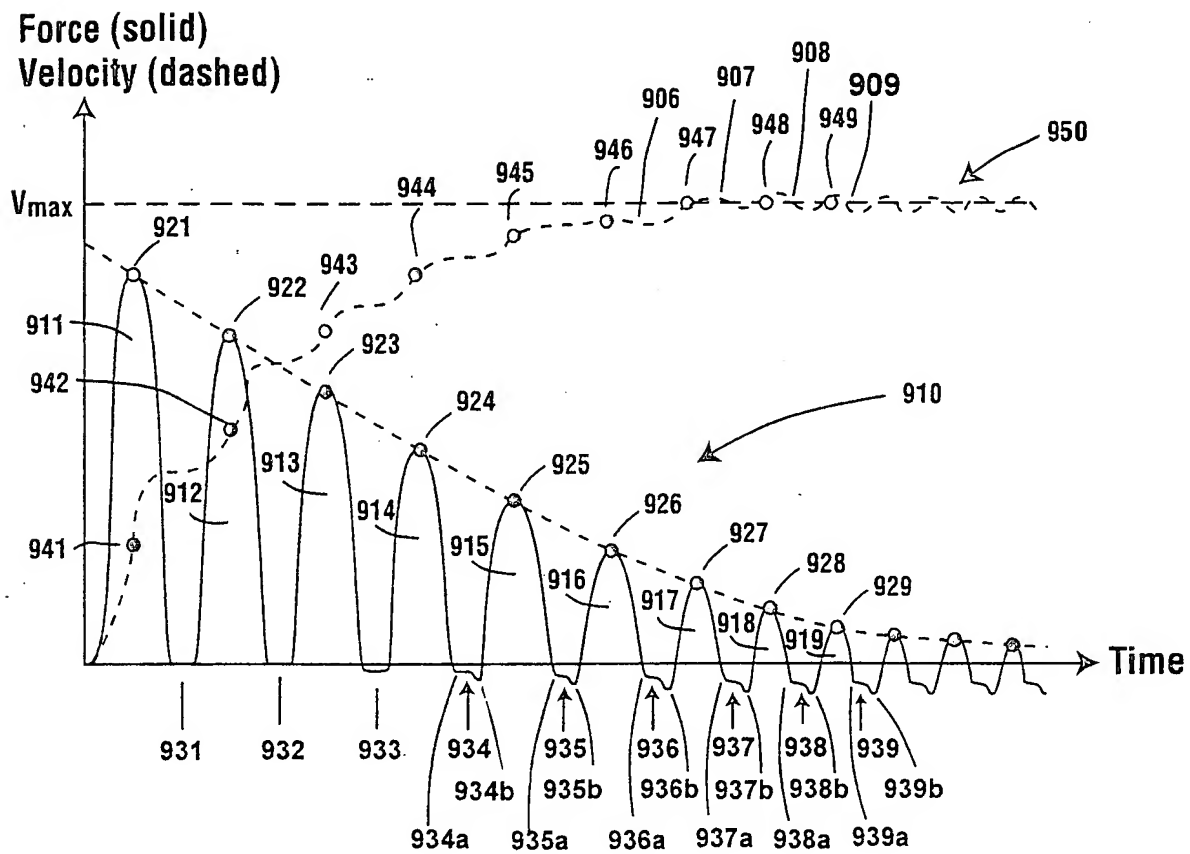


Fig. 9C

